

Los Altos Academy of Engineering

Newsletter

"Building a cleaner, more fuel-efficient tomorrow"

December 2018



Engineering Class of 2018-2019

Solar Cup 2018 Recap

Written by Reo Tseng

The Los Altos Academy of Engineering received the opportunity to compete in the Solar Cup, a competition sponsored by the Metropolitan Water District. The event, held at Lake Skinner, challenges high school students to create an eco-friendly, solar-powered boat. There are two parts of the competition that we compete in: endurance and sprint. Endurance is a portion of the event in which participants run their vehicle for ninety consecutive minutes in a closed loop to see how many laps they can accomplish. The sprint portion has competitors run their boat as fast as possible in a two-hundred-meter course to try and achieve the shortest time. Teams must pass inspection in order to qualify and race on the lake.

During qualifiers, our team faced the issue of an intermittent short where the system worked at moments but struggle in others. The problem was determined and resolved nearing the final hours of the qualifier but it set a precedent for the issues the team faced moving forwards.

The following day, our run in the endurance came to a pause when the skipper of the boat noticed that the shaft was disconnected from the motor. With the power running but translating no movement, our skipper was stuck on the lake, waiting for race officials to pull the boat back to the dock. This took 20 minutes and many laps away from the team's standing. Losing those crucial minutes left the team in a frustrating situation, but with Sprints still on the horizon, there was still an opportunity for redemption.

Confident in the adjustments made the previous day, our members began the Sprint race. Unbeknownst to them, there was another loose wire, this time a node, whose consequences were only made evident when the team put the boat in the

water. This resulted in the loss of another section of the competition and it left the team with the only option of redoing the sprint for the second portion of the competition.

Overall, the competition was full of learning opportunities. Senior Issac Santana notes, "The experience was eye-opening and I was surprised by how large the event was. It was a very rewarding process." With this being our return to Solar Cup after a six-year hiatus, we wish to express our gratitude toward our sponsors and supporters. The competition was riddled with by missteps and blunders, but many lessons were learned in the process, all of which would be extremely beneficial in our upcoming years in Solar Cup.



Current Projects

Written by Kaiden Valdez-Rachlin

For this year, the Los Altos Academy of Engineering has set its goals on three main projects: Solar Cup, the Congressional App Challenge, and the Conrad Spirit of Innovation Challenge.

The Metropolitan Water District has once again given us the opportunity to participate in Solar Cup. We are very excited to apply the knowledge we have learned last year into this year's competition. Our teams are working hard to make sure that we improve our performance this year.



The 2018 Congressional App Challenge, held by 39th District representative, Ed Royce, is a competition in which students develop an innovative app to solve real-world issues. This is our fourth year competing. We are excited to be sending two teams to represent our program.

The first team's members are Samantha Gonzalez, Melissa Lopez, Valeria Villalvazo, and Erika Gomez. They are developing their app through Thinkable, a drag and drop mobile app builder. Their app is called Homeless Helper, which aims to aid homeless people by allowing others to donate a package which contains basic necessities that are arranged in a box. However, people can also donate items in various quantities, such as sweaters or shirts. Their app also includes a feature

for people to volunteer at their local shelter, soup kitchen, or church.

The second team participating this year consists of two members: Vicky Zhai and Amy Tam with their app, MooBike. Their goal is to reduce traffic in Los Angeles in order to prepare for the 2028 Summer Olympics. The app allows people in need of transportation to find locals willing to loan their bikes nearby.



The Conrad Spirit of Innovation Challenge encourages high school students to combine entrepreneurship and STEM skills in order to develop innovative ideas for a sustainable and brighter future. The competition consists of three rounds. Round one requires a video pitch of a product idea. The second round involves creating a business plan. The final round requires competitors to present their idea to investors. We currently have a veteran team who will be competing again this year. They have already advanced to the second round in which they will begin to create a business plan for their idea.



Kiwanis Meeting

Written by Vicky Zhai

On the night of Thursday, September 6th, our program sent Issac Santana over to the Kiwanis Council meeting to present and thank the committee for their long-term support. Kiwanis is an organization that aims to help out communities locally and globally. Their support of our program over the years has allowed all of our engineering members to further explore our interest in STEM. To express our sincere gratitude, we attended their meeting to present our experience diving back into the Solar Cup competition for the first time in six years.

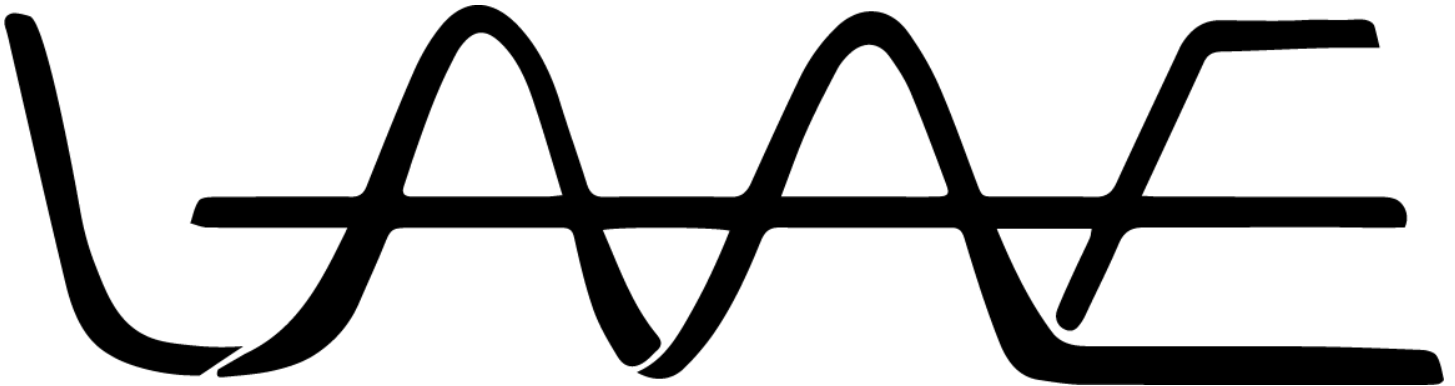
We began by explaining the various aspects of the competition: from designing to building a boat, creating a public service announcement, and finally racing on the lake. We shared with the council members some pictures that were taken from the 3-day competition so they could gain a better visual sense of the event. After a session of question and answers, the members were very pleased and impressed with the learning and improvement that our program has been making.

At the end of the meeting, the Kiwanis member council presented us with a \$500 check to further support our program. Officer Barba, President of Hacienda Heights Kiwanis Club shared, “We are always willing to help our students who will be our future leaders in Engineering.”



Their donation will go a long way and help the members of our program to expand our knowledge and experience in the engineering field.

THE LOS ALTOS ACADEMY OF ENGINEERING



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THANK YOU!

WE WOULD LIKE TO THANK ALL
OF OUR WONDERFUL
SUPPORTERS FOR ALLOWING US
TO CONTINUOUSLY IMPROVE
THE PROGRAM.

CONTACT US!

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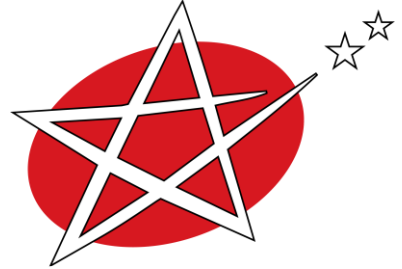
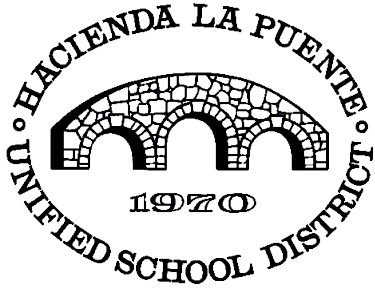
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